

## **EXHIBIT D**

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

NOKIA CORPORATION and NOKIA INC.,

Plaintiffs,

v.

INTERDIGITAL COMMUNICATIONS  
CORPORATION and INTERDIGITAL  
TECHNOLOGY CORPORATION,

Defendants.

C.A. No. 05-16-JJF

**PLAINTIFFS' STATEMENT PURSUANT  
TO SECOND DISCOVERY ORDER**

Pursuant to the Second Discovery Order issued by Special Master Seitz on November 14, 2006, Plaintiffs Nokia Corp. and Nokia Inc. ("Nokia") hereby serve on Defendants InterDigital Communications Corp. and InterDigital Technology Corp. ("InterDigital") Plaintiffs' Statement Pursuant to Second Discovery Order.

**I. InterDigital's ETSI Declarations**

In Attachment A, Nokia demonstrates on a patent-by-patent basis that InterDigital's declarations to ETSI that 195 of InterDigital's U.S. patents are essential to the 3G standard UMTS are "false or misleading." *See* 15 U.S.C. § 1125(a)(1).

In addition, InterDigital's ETSI declarations were made in bad faith. As a preliminary matter, Nokia notes that evidence of bad faith – e.g., evidence that InterDigital knew or should have known that its ETSI declarations were "false or misleading" at the time it made them – is inherently more likely to be in the possession of InterDigital rather than Nokia. Nokia has served various discovery requests on InterDigital regarding bad faith but has not yet received

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adequate responses.<sup>1</sup> Nokia expects, for example, to obtain further evidence of bad faith when InterDigital serves its Statement pursuant to the Special Master's Second Discovery Order.

Nokia hereby incorporates by reference Nokia's response to Interrogatory No. 2 in Plaintiffs' First Supplemental Objections and Responses to Defendants' First Set of Interrogatories to Plaintiff, in which Nokia explains some contentions that InterDigital's ETSI declarations and other statements were made in bad faith.

Nokia further contends that InterDigital's interpretation of the ETSI declaration requirements demonstrates bad faith. InterDigital evidently interprets the ETSI IPR Policy and ETSI IPR Guidelines to require declaration whenever a patent "might," in some nebulous sense, at some undefined point in the future, and based on some unknown and unforeseen events, become essential to a standard – without any objective factual analysis of the essentiality of the claims. InterDigital's capacious interpretation of the ETSI requirements deprives the declaration process of any meaning, and is itself evidence of bad faith. For example, although the ETSI IPR policy defines "ESSENTIAL" to encompass "technical (but not commercial) grounds," InterDigital interprets ETSI's requirement that members "inform ETSI of ESSENTIAL IPRs" to require InterDigital to declare patents that are essential only on "commercial" grounds. Declarations made pursuant to InterDigital's bad faith "interpretation" are likewise made in bad faith.

Similarly, InterDigital's bad faith is demonstrated by the inadequate process InterDigital uses for determining essentiality. InterDigital has admitted that it declared patents to ETSI as essential to UMTS without preparing claims charts comparing the patents to specific provisions of the standard. Instead, InterDigital relies on a casual process for identifying patents to declare

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<sup>1</sup> Nokia also does not concede that bad faith is required as a matter of law for its Lanham Act claim.

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to ETSI. Through this inadequate process, InterDigital declares patents that it knows are not essential or for InterDigital is willfully ignorant. This informal process allows InterDigital to greatly increase the number of patents it can declare to ETSI and thereby furthers InterDigital's goal of licensing its patents. InterDigital's use of this inadequate process, however, demonstrates bad faith.

InterDigital's bad faith is also demonstrated by the vague nature of its essentiality declarations. For the 195 U.S. patents that InterDigital declared to ETSI as essential to the 3G standard UMTS, InterDigital did not list the ETSI Standard Number for the particular provision of the UMTS standard for which the patents are allegedly essential, even though the declaration form available at the time InterDigital made most of its declarations included a column for "ETSI Standard No." UMTS is broken into more than 400 provisions with separate ETSI Standard Numbers. InterDigital therefore knew or should have known that prospective licensees would face great difficulties in determining whether a patent declared by InterDigital was actually essential. Moreover, in determining whether to declare a patent essential, InterDigital at times compared the patent to a particular provision of UMTS. Despite having easy access to this information, InterDigital chose not to include it in essentiality declarations, and instead preferred to make its essentiality declarations difficult to confirm or refute.

InterDigital's bad faith is further demonstrated by InterDigital's refusal to comply with ETSI's requirements for timely declarations. Although ETSI requires that declarations of essential patents and applications be made "in a timely fashion," InterDigital has only declared patents and applications to ETSI twice -- once in 2001 and once three years later in 2004. InterDigital consequently waits for substantial periods of time before declaring patents to ETSI.

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In fact, InterDigital has not yet declared to ETSI one patent, U.S. Patent No. 6,771,632, that InterDigital has in this litigation claimed to be essential to UMTS.

Nokia also notes that InterDigital's ETSI declarations regarding the 34 patents listed in Attachment B exhibit particular bad faith. InterDigital declared these patents to ETSI as essential to UMTS in 2001, but did not re-declare these patents to ETSI as essential in 2004. InterDigital has revealed to Nokia that the reason that InterDigital did not declare these patents a second time is that InterDigital no longer contends that these patents are essential to UMTS. InterDigital has not, however, requested that ETSI remove or update InterDigital's declarations regarding these non-essential patents from the ETSI database of declared patents, although InterDigital has updated its other declarations for other purposes. InterDigital evidently prefers to allow these false statements to remain in the ETSI database and to keep secret from the world that it no longer contends these patents to be essential to UMTS. InterDigital's secret withdrawal of these patents is an attempt to grant licenses and garner increased royalties on patents that even InterDigital knows are not essential. In doing so, InterDigital acts in bad faith.

Furthermore, InterDigital's ETSI declarations regarding the 45 patents listed in Attachment C exhibit particular bad faith. These patents concern only technology related to "time Division duplexing" or "TDD." Although for all practical purposes TDD technology has not been implemented for wireless mobile phone applications – and a license is therefore not needed for these patents – InterDigital did not indicate that these patents are not essential to the aspects of UMTS actually being practiced by manufacturers. InterDigital's vague references in its declarations to the UMTS specification make it more difficult for parties to determine that these patents are not declared for UMTS-FDD. Accordingly, InterDigital's claims that

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manufacturers must pay InterDigital substantial royalties based on the patents declared to ETSI – including the TDD patents – are “false or misleading” and made in bad faith.

Similarly, InterDigital’s declarations regarding the 22 patents listed in Attachment D exhibit particular bad faith. InterDigital contends that manufacturers must pay InterDigital significant royalties for the patents it has declared to ETSI, including these patents. Much of the industry, however, *already* paid or is paying for licenses to these patents because rights to these patents were included in licenses granted with respect to the practice of the IS-95 CDMA standard. InterDigital knew or should have known that these rights to these patents had already been granted and that additional payments were unnecessary. InterDigital’s “false or misleading” declarations regarding these patents were therefore made in bad faith.

These separate explanations of InterDigital’s bad faith in declaring the 195 U.S. patents listed in Attachment A to ETSI are each sufficient to support Nokia’s Lanham Act claim. Moreover, taken collectively, these different bad-faith allegations demonstrate a calculated campaign by InterDigital to convince the 3G industry, through false and misleading statements regarding these 195 patents, unnecessarily to pay InterDigital substantial royalties for products currently being manufactured to comply with UMTS.

## **II. InterDigital’s Other Statements**

Nokia’s Lanham Act claim also focuses on InterDigital’s efforts to market its patent portfolio through general statements that its patents are essential to 3G standards being implemented by manufacturers. Many of these general statements make specific reference to InterDigital’s ETSI declarations. Nokia therefore incorporates by reference all of InterDigital’s general essentiality statements (apart from the ETSI declarations) listed in (1) Plaintiffs’ Statement Pursuant to First Discovery Order; (2) Defendants’ Statement Pursuant to Special

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Master's First Discovery Order; and (3) Plaintiffs' First Supplemental Objections and Responses to Defendants' First Set of Interrogatories to Plaintiff, in particular Nokia's response to Interrogatory No. 1. These statements are false and misleading because manufacturers do not need to take a license to InterDigital's portfolio on the basis of the purported essentiality of any of the patents InterDigital declared to ETSI as essential to UMTS, as noted above and in Attachment A. Moreover, because these general statements rely on or reference the ETSI declarations, these statements are made in bad faith for the reasons noted above.

On information and belief, InterDigital has made additional essentiality claims through licensing presentations that are actionable under the Lanham Act. InterDigital has currently frustrated Nokia's efforts to obtain such presentations for use in these proceedings. When those discovery roadblocks are removed, Nokia will supplement this Statement accordingly.

MORRIS, NICHOLS, ARSHT & TUNNELL LLP



Jack B. Blumenfeld (#1014)

Julia Heaney (#3052)

1201 N. Market Street

Wilmington, DE 19801

(302) 658-9200

Attorneys for NOKIA CORPORATION and  
NOKIA INC.

OF COUNSEL:

ALSTON & BIRD LLP

Peter Kontio

Patrick Flinn

Randall Allen

Lance Lawson

1201 West Peachtree Street

Atlanta, GA 30309

(404) 881-7000

December 14, 2006

## **ATTACHMENT A**



**U.S. Patent No. 5,081,643**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '643 patent claims an apparatus and method for receiving a particular path having a greatest amplitude of a spread-spectrum multipath signal. A plurality of shift registers shifts a chip-code signal by a plurality of time delays.

The '643 patent has 6 independent claims—claims 1, 2, 3, 7, 11, and 12. The independent claims of the '643 patent are not essential at least because UMTS does not require any particular receiver design or algorithm. For example, claim 1 is not essential at least because the UMTS specification does not require a plurality of shift registers operatively coupled to a chip code generator for shifting the chip code signal by a plurality of time delays, where each time delay has a duration equal to a time period of one chip of a chip code signal. The UMTS specification also does not require a plurality of shift registers having a plurality of taps corresponding to each of the time delays that have a duration equal to a time period of one chip of the chip code signal. See, for example, 25.101, 25.104, and 25.213. Claim 11 is not essential at least because the UMTS specification does not require using a plurality of shift registers for shifting a chip-code signal by a plurality of time delays.

Claim 2 is not essential at least because the UMTS specification does not require a delay means operatively coupled to a chip means for shifting a chip-code signal by a plurality of time delays, where each time delay has a duration equal to a time period of one chip-code signal and UMTS does not require a delay means that has a plurality of

taps corresponding to each of the time delays. Claims 3 and 7 are not essential at least because the UMTS specification does not require a delay means for shifting a chip-code signal by a plurality of time delays, where the delay means has a plurality of taps corresponding to each of the time delays. Claim 12 is not essential at least because the UMTS specification does not require shifting with a delay means a chip code signal by a plurality of time delays.

All of these claims require design decisions that are left to the equipment manufacturers. The claimed apparatus and method are but one of many approaches to equipment design, and are clearly not mandated by the specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,161,168**

The '168 patent claims a system and method for a spread spectrum CDMA communications system.

The independent claims are not essential at least because the UMTS specification does not specify any requirements for geographically overlaying a CDMA system, in the same frequency band or otherwise, with another cellular communications system. For example, claims 1, 6, and 13 are not essential at least because UMTS does not require a spread spectrum CDMA communications system which communicates data and/or digitized voice between PCN units, and in which the CDMA spread spectrum communications system is located within the same geographical region as occupied by a plurality of narrowband microwave users. Co-location issues are within the province of the service provider and regulators, not the UMTS specification. Moreover, UMTS does not require that the spread-spectrum CDMA communications systems use a spectrum that overlays narrowband microwave users. Claims 1 and 6 are further not essential at least because UMTS does not require a base station which spread spectrum processes the data with a spread-spectrum bandwidth, which has at least four times the narrowband bandwidths of narrowband microwave users. Claim 13 is further not essential at least because UMTS does not require geographically spacing base stations such that power radiated by each base station that is located within a cell varies inversely with distance by an exponent of approximately two, and the that power radiated by each base station outside its cell varies inversely with distance by an exponent greater than two.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,179,572**

The '572 patent requires and claims a system and method for simultaneously listening to a plurality of spread-spectrum channels of a plurality of received spread-spectrum communications channels. The conference call is sent on multiple channels and the subscriber unit demodulates all of the calls in order to listen to them.

All independent claims of the '572 patent require the use of a generated replica of a generic chip code at a mobile for recovery and despreading of a spread spectrum signal from multiple channels. The UMTS specification does not require conference calling such that separate spread spectrum channels are recovered and despread at mobile. See, for example, 24.147 and 24.084, which relate to relevant protocols for conference calling capability but do not require that several channels are recovered and then despread at user equipment. Therefore, no claim of the '572 patent is essential to the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically

essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,224,120**

The '120 patent claims a system and method for a CDMA system that is overlaid geographically in a radio-relay system. The CDMA system measures a first power level within the radio-relay bandwidth of the radio-relay system and measures a second power level outside the bandwidth of the radio-relay system. The ratio of the first power level and the second power level is used to regulate the transmit power of the base stations and units communicating with the base stations.

The co-placement of spread spectrum and radio relay systems would in the province of the service provider and regulator, not a standards body. Claims 1, 7, 12, 17, 29, and 30 are not essential at least because the UMTS specification does not require dynamically allocating power and capacity of a CDMA system having at least one base station, with the CDMA system overlaying, in part, in frequency and in the same geographical area as a radio-relay system. Claims 1, 7, 12, 17, 29, and 30 are further not essential at least because UMTS does not require measuring a first power level within the radio-relay bandwidth of the radio-relay system and measuring a second bandwidth, which does not overlap the radio-relay bandwidth, outside the radio-relay bandwidth and generating a ratio signal from the first and second power levels that are used to regulate a power level of a base station, when the first power levels exceeds a predetermined threshold and further regulates a number of user units accessing the base station.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,263,045**

The '045 patent claims a conference calling receiver. Independent claims 1, 8, and 13 require a plurality of spread-spectrum receivers, each receiver including a device for acquiring and tracking a carrier signal, a message-spread-spectrum-processing device and a demodulating device. Claim 6 claims a method for receiving a conference call and requires recovering, using a replica of a generic-chip-code signal, a carrier signal from a spread-spectrum-communications signal and generating the replica of the generic-chip-code signal synchronized to the recovered-carrier signal.

Claims 1, 8, and 13 are not essential to UMTS at least because the UMTS specification does not require a plurality of spread-spectrum receivers. Claim 6 is not essential to UMTS at least because the UMTS specification does not require the use of replica of a generic-chip-code signal to recover a carrier signal from a spread-spectrum communications signal, where the replica of the generic-chip-code signal is synchronized

to the recovered-carrier signal. See, for example, 24.147 and 24.084, which relate to relevant protocols for conference calling capability. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,351,269**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '269 patent claims a system and method which uses a spread spectrum CDMA communication system for communication of data between users of PCN units. The spread spectrum communication system is located within the geographical region occupied by an existing mobile cellular system. Base stations of the claimed system have a comb filter for notch filtering channels of the mobile cellular system so as to remove interference from the mobile cellular system.

The independent claims are not essential at least because the UMTS specification does not specify any requirements for geographically overlaying a CDMA system, in the same frequency band or otherwise, with another mobile cellular system. For example, claims 1, 7, 13, 15, and 22 are not essential at least because UMTS does not require a spread spectrum CDMA communications system for communicating data, between a plurality of mobile terminals, located within a same geographical region as occupied by a mobile cellular system with each cell of the mobile cellular system having a cellular bandwidth that is divided into predetermined channels and guard bands between the predetermined channels, having cellular-users communicating on the predetermined channels. Co-location issues are within the province of the service provider and regulators, not the UMTS specification. Moreover, UMTS does not require a base station which transmits spread spectrum processed converted data across the cellular bandwidth of the mobile cellular system to the mobile station. Claims 7, 13, and 22 are further not essential at least because UMTS does not require a base station which notch filters the predetermined channels of a mobile cellular system.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially



essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,363,403**  
**U.S. Patent No. 5,553,062**  
**U.S. Patent No. 5,719,852**  
**U.S. Patent No. 6,014,373**  
**U.S. Patent No. 6,259,688**

InterDigital omitted the '403, '062, '852, and '373 patents from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of these patents.

The '403, '062, '852, '373, and '688 patents claim systems and methods for receiving and recovering a signal from a plurality of channels using subtractive interference. Each independent claim of the '403 patent, the '373 patent, and the '688 patent requires a device or method for subtracting all other channels from a desired channel and despreading the resulting data.

Each independent claim of the '062 patent requires a device or method using estimate values from a plurality of interference cancellers to correct a signal. The '852 has 6 independent claims. Each of independent claims 1, 2, and 3 of the '852 patent requires a device or method using estimate values from a plurality of interference cancellers to correct a signal. Each of independent claims 4, 6, and 11 of the '852 patent requires a device or method for subtracting all other channels from a desired channel and despreading the resulting data.

The UMTS specification does not require the use of interference cancellation at a receiver. Moreover, subtractive interference cancellation is just one possible implementation for accounting for the presence of interfering signals. Thus, none of the claims of the '403, '062, '852, '373, and the '688 patents are essential to UMTS.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,469,468**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '468 patent claims a system and method for a spread-spectrum satellite system which communicates data from a satellite to remote pager units. The spread-spectrum satellite system has a plurality of remote pager units located in the same geographical region as covered by a mobile-satellite system. The mobile-satellite system has a mobile bandwidth and mobile-satellite users communicating using the mobile

bandwidth. The spread-spectrum satellite system is overlaid in the spectrum of the mobile bandwidth.

The independent claims are not essential at least because the UMTS specification does not specify any requirements for geographically overlaying a CDMA system, in the same frequency band or otherwise, with a spread spectrum satellite system. For example, claims 1, 7, 13, 14, 20, 22, and 23 are not essential at least because UMTS does not require a spread-spectrum satellite system for communicating data from a satellite to mobile terminals in which the spread-spectrum satellite system is located in a same geographical region as covered by a mobile-satellite system, with the mobile-satellite system having a mobile bandwidth and having mobile-satellite users which communicate using the mobile bandwidth. Co-location issues are within the province of the service provider and regulators, not the UMTS specification. Additionally claims 1, 7, 13, 14, 20, 22, and 23 are not essential at least because UMTS does not require that the spread-spectrum satellite system is overlaid in the spectrum of the mobile bandwidth for simultaneous communication of mobile-satellite voice and spread-spectrum satellite paging information. Furthermore, claims 1, 7, 13, 14, 20, and 23 are also not essential at least because UMTS does not require a satellite, having an antenna beamwidth overlaying the same geographical region as covered by the mobile-satellite system. In addition, claims 7, 13, 14, 20, and 23 are not essential at least because UMTS does not require transmitting across at least part of the mobile bandwidth, simultaneously and non-interferingly with a transmission from the mobile-satellite system on the same part of the mobile bandwidth, so that the spread-spectrum data is transmitted from a satellite to a mobile. Claims 1, 7, 13, 14, 20, and 23 are further not essential at least because UMTS

does not require a plurality of mobiles, located within the same geographical area as covered by a mobile-satellite system, for receiving spread spectrum processed-converted data on the same part of a mobile bandwidth.

Claims 7 and 20 are further not essential at least because UMTS does not require a spread-spectrum satellite paging system for communicating data in the same geographical region as covered by a mobile-satellite system, with the mobile-satellite system having a mobile bandwidth divided into a plurality of mobile channels separated by a plurality of guard bands in which mobile-satellite users communicate on the plurality of mobile channels. Additionally, claims 7, 13, 20, and 23 are further not essential at least because UMTS does not require a spread-spectrum satellite paging system having a remote antenna for notch filtering the plurality of mobile channels. Moreover, UMTS does not require a base station which transmits spread spectrum processed converted data across the cellular bandwidth of the mobile cellular system to the mobile station. Claims 7, 13, and 22 are further not essential at least because UMTS does not require a base station which notch filters the predetermined channels of the mobile cellular system. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,563,907**

**U.S. Patent No. 5,920,590**

The '907 and '590 patents claim devices and methods for a transmitter in a spread spectrum system. Independent claims 1, 6, and 11 of the '907 patent and independent claims 1, 6, and 11 of the '590 patent each require generating and filtering an impulse signal for each chip in the spread-data signal to be transmitted. The independent claims of the '907 and '590 patents are not essential to UMTS at least because UMTS does not specify any particular transmitter design. More precisely, UMTS does not require transmitters in a base station, a mobile terminal, or elsewhere to generate and filter impulse signals in a specific manner after spreading.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,574,747**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '747 patent claims a system and method for adaptive power control. A base station generates an AGC-output signal in response to a received first spread spectrum signal from a mobile station. The base station uses the AGC-output signal to generate a power-command signal. The base station transmits the power-command signal as a second spread spectrum signal to the mobile station. The mobile station adjusts its transmitter-power level. In independent claims 1 and 13, the adjustment follows a step-size algorithm.

Even if the claimed "power-command signal" were construed to cover the closed loop uplink transmit power command of UMTS, independent claims 1, 4, 11, 13, 16, and 23 are not essential at least because UMTS does not require a base station to generate an "AGC-output signal" that is used to generate the transmit power command. See 25.214 – 5. There are many ways in which received signal power can be measured that would not be considered the same or equivalent to an AGC circuit. Claims 1 and 13 further are not essential at least because UMTS does not require the user equipment to follow a "step-size" power adjustment algorithm as claimed; in UMTS, the transmit power command directs the user equipment to change its transmit power in fixed step sizes of 1, 2, or 3dB only, and the sizes are not varied through the use of this command. Further, the UE need not implement any step size other than 1 dB. See 25.101 – a 6.4.2.1 and 25.214 – 5.1.2.2. Independent claims 1, 4, 11, 13, 16, and 23 further are not essential at least

because UMTS transmit power commands from the node B to the user equipment are multiplexed with downlink dedicated data, and not "as a second spread spectrum signal" as claimed. See 25.211 – 5.3.2.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,588,020**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

Claims 1, 6, and 12 claim a system and apparatus in which a CDMA system overlays another mobile cellular system with predetermined channels of the mobile cellular system. The base station has a comb filter that notches out channels of the other mobile cellular system. The co-placement of cellular systems would be in the province of the service provider and regulator, not a standards body. Furthermore, the need for a notch filter, if any, would be a function of a specific implementation in a specific place. Claims 1, 6, and 12 are not essential at least because the UMTS specification does not require a CDMA system in the same geographical region as a mobile cellular system with each cell of the mobile cellular system having a cellular bandwidth divided into

predetermined channels with guard bands between the predetermined channels. Claims 1, 6, and 12 are further not essential because the UMTS specification does not require a base station that transmits a spread spectrum signal across the cellular bandwidth. Claims 6 and 12 are also not essential at least because the UMTS specification does not require a base station that notch filters the predetermined channels of the mobile cellular system. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,673,286**

The '286 patent claims an apparatus and method for processing spread spectrum signals at a multipath processor. The multipath processor includes a first plurality of correlators, a second plurality of correlators, and a selector device for tracking a spread-spectrum signal arriving in a plurality of groups. The selector device selects either a first or a second combined-despread signal and outputs the selected signal.

Independent claims 1 and 13 are not essential at least because UMTS does not require a receiver to include a selector that selects one of two groups of despread



multipath components. See, for example, 25.101, 25.104, and 25.213. Such design choices are but one of many alternatives, and in any event, are left to the equipment manufacturer. They are not part of the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,703,874**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '874 patent claims a system, apparatus, and method for communicating data in a spread-spectrum code division multiple access (CDMA) communications system. The spread-spectrum CDMA communications system is located within the same geographical region as a mobile-cellular system having an allocated frequency spectrum. The spread-spectrum CDMA communications system is overlaid in the cellular bandwidth and reuses the allocated frequency spectrum.

The co-placement of cellular systems would in the province of the service provider and regulator, not a standards body. Furthermore, Claims 1, 9, 15, 31, and 32 are not essential at least because the UMTS specification does not require a spread-spectrum CDMA system for communicating data between mobile terminals and in which the CDMA system is located within the same geographical region as occupied by a mobile-cellular system having an allocated frequency spectrum, with each cell of the mobile-cellular system having a cellular bandwidth divided into predetermined channels and having guard bands between the predetermined channels. Claims 1, 9, 15, 31, and 32 are further not essential at least because UMTS does not require a mobile-cellular system having mobile stations communicating on the predetermined channels of the mobile-cellular system and the UMTS specification does not require that the CDMA system be overlaid in the cellular bandwidth of the mobile-cellular system and reuse the allocated frequency spectrum. See, for example, 25.104. Claims 17 and 25 are further not essential at least because UMTS does not require a broadband code division multiple access (B-CDMA) system for communicating data between mobiles, and does not require a B-CDMA system located within the same geographical region as occupied by a mobile-cellular system having mobile-cellular units. Claims 17 and 25 are further not essential at least because the UMTS specification does not require that each cell of the mobile-cellular system has a cellular bandwidth divided into predetermined channels separated by guard bands and that the B-CDMA system is overlaid in the cellular bandwidth such that a total number of mobile terminals and the mobile-cellular units using the cellular bandwidth is from four to eleven times a number of original mobile-cellular units before overlay, with the number of original mobile-cellular units being close to a maximum

number supportable by the mobile-cellular system. Claims 1, 9, 15, 17, 25, 31, and 32 are further not essential at least because the UMTS specification does not require attenuating the predetermined channels of the mobile-cellular system or notch filtering the received spread-spectrum signal at the predetermined channels, reducing interference to the cellular users and to the mobile terminal users.

Moreover, claims 9 and 25 are further not essential at least because the UMTS specification does not require an allocated frequency spectrum that effectively supports four to eleven times an original maximum-capacity number of the cellular users as supported users, where the supported users include the cellular users and the mobile terminal users. Additionally, claims 15, 17, 31, and 32 are further not essential at least because the UMTS specification does not require dividing the geographical area, within which the CDMA system is located, into at least two sectors, or at least three sectors or six sectors and the UMTS specification does not require that the base station have a three sector or six sector antenna.

Furthermore, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,748,687**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '687 patent claims a particular implementation for a receiver. Among the requirements for the only independent claim—claim 1—is a controller means for determining, obtaining, and maintaining code sequence lock and coupled to an I-code signal correlator, a Q-code signal correlator, and the local code sequence generator.

Claim 1 of the '687 patent is not essential to UMTS because the UMTS specification does not require a particular receiver design. In particular, the '687 patent is not essential at least because UMTS does not require the controller in accordance with claim 1. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,796,776**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '776 patent claims a code sequence generator using a multi-stage linear feedback shift register with feedforward elements. Independent claim 1 of the '776 patent is not essential to the UMTS specification at least because the UMTS specification does not require any particular implementation for generating a spreading code. 25.213 – 5.2.3.1, 4.3.2.2, and Annex B, for example, discuss code generation, but do not require a multi-stage linear feedback shift register with feedforward elements, as depicted in Figure 2B of the '776 patent and as claimed. The UMTS specification also does not require cascade feedforward as claimed, nor does UMTS generate the “spreading” code of the '776 patent. Figure 5 in 25.213 – 4.3.2.2 is inconsistent with claim 1 of the '776 patent.

Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term “essential,” Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,799,010**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

Independent claim 1 requires an RF transmitter means for combining a plurality of spread-spectrum processed message signals with a global pilot code signal to generate a CDM signal that is modulated then transmitted. Independent claim 5 requires a subscriber unit having a global pilot code tracking means for producing an error signal responsive to an acquisition signal, and a means for adjusting a global pilot code signal in phase, responsive to the error signal.

Claims 1 and 5 are not essential to UMTS at least because the WCDMA standard does not require that message signals be synchronized to a global pilot code signal as claimed in the '010 patent. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,835,527**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '527 patent is directed to system for adaptive power control using an automatic gain control circuit. Independent claims 1, 4, 13, 16, 19, and 26 are not essential at least because UMTS does not require a base station to generate an "AGC-output signal" that is used to generate the transmit power command. See 25.214 – 5. There are many ways to measure received power level that are not an AGC circuit. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,841,768**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '768 patent claims a system and method for controlling transmission power during the establishment of communications between a subscriber and a base station. It discloses a two-stage power-up process wherein a short code is transmitted at a faster rate than a subsequent long code. Independent claims 1 and 12 are not essential at least because UMTS does not require transmitting a second periodic signal at a second ramp-up rate that is less than a first ramp-up rate at which it transmitted a first periodic signal. See 25.211 – 5.2.2. Claim 11 is not essential at least because UMTS does not require a control means that increases the transmission power level at a first rate prior to receipt of a confirmation signal and that increases the transmission power level at a lower second rate after receipt of a confirmation signal. See 25.211 – 5.2.2. Claim 21 is not essential at least because UMTS does not require transmission of a long access code at a second increasing power ramp up rate responsive to detecting a confirmation of a receipt of a short code, where the second ramp up rate is less than the first power increase rate. See 25.211 – 5.2.2. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the



term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,912,919**

The '919 patent has two independent claims purportedly covering an apparatus and method for tracking a centroid of a plurality of multipath spread-spectrum signals constituting a spread-spectrum channel signal including a transmitted code sequence. The claimed receiver match filters and digitally samples the channel to produce even early samples and odd late samples and combines them with locally generated code sequences to produce early and late despread signals, which it uses to determine early and late tracking values and adjust the code phase according to the difference.

Claims 1 and 6 of the '919 patent are not essential to UMTS at least because UMTS does not require any particular receiver design. UMTS does not require that a receiver track a centroid at a balance between early and late samples. This is a highly specific approach, and only one of many alternatives.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically

essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,940,382**

The '382 patent claims a method for reacquisition of a subscriber unit. A subscriber unit determines a timing difference between a subscriber unit's transmission of an access signal and reception of a confirmation signal and stores the timing difference. The timing difference is used for subsequent subscriber unit reacquisitions.

Claim 1 is not essential at least because UMTS neither requires calculation of a delay value between an access signal and a confirmation signal nor does UMTS require storage of such a delay value or its use for subsequent reacquisition. See 25.214 – 6.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,943,331**

**U.S. Patent No. 6,141,332**

The '332 patent is a continuation of the '331 patent. Both patents claim a spread spectrum system and method in which the mobile station uses range delay to adjust code phases during transmission. Independent claims 1, 10, 18, and 29 of the '331 patent and

claims 1, 5 and 9 of the '332 patent are not essential at least because UMTS does not require any particular transmitter design. UMTS does not specify particular algorithms for using range delay for phase adjustment in order to achieve orthogonality among different channels. See, for example, 25.215 – 5.2.8.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,991,329**

The '329 patent claims a system and method of automatic power control. A power command signal is calculated at a first communication station based on the received signal power and the signal-to-noise ratio of the received signal. The power command signal is then transmitted. A second communication system receives the power command signal and adjusts its power based on the power command signal. Independent claims 1, 9, 13, 15, and 21 are not essential at least because they read on a particular receiver and transmitter implementation not required by UMTS. In particular, each of claims 1, 9, 13, 15, and 21 each require comparing a received signal power, a noise power, and an average received total power. UMTS does not require a comparison between a received total power, a noise power, and an average received total power. Moreover, each independent claim with "means" language subject to construction in

accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 5,991,332**

**U.S. Patent No. 6,229,843**

The '332 patent claims an adaptive matched filter with a pilot vector correlator for use in a spread spectrum receiver. The '843 patent also claims the pilot vector correlator. Each of independent claims 1, 3, 5, 6, and 8 of the '332 patent and claim 1 of the '843 patent are not essential to UMTS at least because UMTS does not require any particular receiver design. UMTS does not require that either the base station or the mobile station use pilot data to generate rake receiver parameters for demodulation. More precisely, UMTS does not require either the base station or the mobile station to generate and combine phase rotated pilot signal components, as required by claims 1, 3, 6, and 8 of the '332 patent and claim 1 of the '843 patent; nor does UMTS require either a base station or a mobile terminal to combine the outputs of a plurality of multipliers that multiply shift register tap outputs values by weighting values that correspond to the carrier signal phase of a multipath components from the spread pilot channel, as required by claim 5 of the '332 patent. These are specific design choices, and such design elements are not set

out in the specification. Furthermore, there are other design choices that would not practice the claimed invention.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 5,995,538**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '538 patent is directed to a multipath processor which receives and processes groups of spread-spectrum signals. A first plurality of spread-spectrum signals in a first group are received, despread, and then combined. Similarly, a second plurality of spread-spectrum signals in a second group are received, despread, and then combined. Thereafter, results of the combination of the first and second groups are combined.

Independent claims 1, 15, and 16 are not essential at least because UMTS does not require a multipath processor having a first means for despread a first plurality of

spread-spectrum signals which are added to form a first combined-despread signal and a second means for despreading a second plurality of spread-spectrum signals that are combined to form a second combined-despread signal and an output combiner for combining the first combined-despread signal and the second combined-despread signal. See, for example, 25.101, 25.104, and 25.213. Independent claim 16 is further not essential at least because the UMTS specification does not require combining the first combined-despread signal, formed of the first plurality of spread-spectrum signals that are weighted, and the second combined-despread signal, formed of the second plurality of spread-spectrum signals that are weighted, as an output despread signal.

This is but one of many possible designs. Such design choices are within the province of the equipment manufacturer and are not part of the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,005,898**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital

admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '898 patent claims a decoder, for simultaneously receiving and processing multiple channels of data at independent rates. The apparatus uses common processing resources and a common memory to provide up to four discrete channels having multi-rate convolutional error correction decoding.

The independent claims of the '898 patent are not essential at least because UMTS does not require a particular receiver design. Independent claim 1 is not essential at least because UMTS does not require a base station or a mobile terminal having a plurality of decoding means for decoding separate channels, and sharing a common. Claim 1 is further not essential at least because the UMTS specification does not require a base station or a mobile terminal to have a control means for directing separate channels to one of the decoding means and assigning that decoding means a data rate responsive to identified data rates.

Independent claim 9 is not essential at least because the UMTS specification does not require a multichannel Viterbi decoder for simultaneously decoding multiple data channels at independent data rates. Moreover, UMTS does not require a Viterbi decoder having the Euclidean distance calculation engine, and the at least four add-compare-select (ACS) circuits, as required by claim 9. See 25.213 – 5.1.5. These are specific design choices, and such design elements are not set out in the specification. Furthermore, there are other design choices that would not practice the claimed invention.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,011,789**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '789 patent claims a system and apparatus for a spread-spectrum code division multiple access (CDMA) communications system. The CDMA system is located in the same geographical region as a mobile-cellular system with each cell of the mobile-cellular system having a cellular bandwidth divided into predetermined channels and guard bands between the predetermined channels. The co-placement of cellular systems would in the province of the service provider and regulator, not a standards body. Claims 1, 9, and 15 are not essential at least because UMTS does not require a CDMA system that is located in the same geographical region as a mobile cellular system which



has a cellular bandwidth divided into predetermined channels and guard bands between predetermined channels.

Claim 1 is also not essential at least because the UMTS specification does not require base stations located within the mobile-cellular system for communicating data to the mobile stations, where each of the base stations have base-sector means for sectoring a geographical area covered by a base station into at least two sectors. See, for example, 25.104. Claims 9 and 15 are further not essential at least because UMTS does not require a base station which notch filters a received spread-spectrum signal at predetermined channels of the mobile-cellular system. Claims 9 and 15 are further not essential at least because the UMTS specification does not require a base station for sectoring a received spread-spectrum signal from among predetermined sectors that are also sectorized by the base station. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,049,535**

The '535 patent is directed to an automatic maintenance power control (MPC) system for a spread spectrum communication which maintains an initial power transmit power level of "inactive" subscriber units. Claim 1 is not essential at least because UMTS does not require power control for inactive user equipment. See 25.214 – 5. Moreover, the "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,075,792**

The '792 patent claims a system and method for allocating bandwidth and dynamically switching between different bandwidths. The disclosure is directed to allocation of ISDN bandwidth on demand by a subscriber. Independent claim 1 is not essential at least because UMTS does not require establishing B and D ISDN channels. Independent claims 2 and 15 are not essential at least because UMTS does not require that the total data rate of the allocated channels be not greater than the adjusted data rate plus a predetermined rate; in UMTS, the data rate is determined at the time of use. See

25.321 – 4.2.3.1. Independent claims 2 and 15 are not essential at least because UMTS does not require that the total data rate be at least equal to the adjusted data rate because UMTS allows for repetition or deletion of data through coding and subsequent rate matching before transmission. See 25.212 – 4. Independent claims 2 and 15 are not essential at least because UMTS does not require the base station to dynamically add or tear down channels to establish different data rates; UMTS adjusts the data rate or a channel by changing the orthogonal variable spreading factor or by changing the allocation of logical channel data to existing transport channels. Further, there is no fixed relationship between logical channel data (and data rates) and physical channels. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,115,406**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '406 patent claims a system and method for transmitting a pilot signal from each of a plurality of transmitting antennas, receiving the transmitted pilot signals, and filtering each of the transmitted pilot signals using that pilot's chip code. The filtered pilot signals are weighted and combined, and each pilot signal's weight is adaptively adjusted based on signal quality of the combined signal.

The UMTS specification does not indicate how pilot signals are to be processed — that is left to the equipment manufacturers. Claims 1 and 13 are not essential at least because the UMTS specification does not require adaptively adjusting the weight of each pilot signal, transmitted from a plurality of transmitting antennas, based in part on the signal quality of a combined signal. See 25.214. Further, claims 1 and 13 are not essential at least because UMTS does not require receiving a data signal, transmitted from each of the plurality of antennas, via filtering each version of the data signal with its associated chip code and combining the filtered version, so that the different data signal versions are weighted in accordance with the adjusted weights associated with the pilot signal of a respective antenna.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,157,619**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '619 patent claims a base station test apparatus. The only independent claim—claim 1—requires a master modem, a slave modem, and a controller coupled to the master modem and a slave modem to retrieve saved master and slave modem information and saved slave modem information as a data record.

Claim 1 of the '619 patent is not essential to UMTS. The UMTS specification does not require a base station test apparatus with a controller coupled to a master modem, a slave modem for retrieving saved master modem information, and saved slave modem information. See, for example, 25.141 – 4.6, which specifies test configurations without specifying the test apparatus as claimed in claim 1. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,175,586**

The '586 patent relates to a system and method of power control in which two received power control commands are compared and power is increased or decreased in response to whether a match exists or not.

Each claim's recitation of a communication station having either a means for, or method including, comparing a sequence of received power commands in order to determine whether there is a match, is not a requirement of UMTS. See 25.214 – 5.1.2. Each claim requires either a means for, or a method including a step of, increasing a magnitude of a step in a communication station's transmit power level by a fixed percentage when sequentially received power command signals match, and decreasing the magnitude of a step in the communication station's transmit power level by a fixed percentage when sequentially received power signals do not match. UMTS does not require increasing or decreasing transmit power level by fixed percentages. See 25.214 – 5.1.2.2. Moreover, each claim's requirement for adjusting a transmitter power level as the reception of power commands is not a requirement of UMTS. See 25.214 – 5.1.2.2.3.

Moreover, the "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,181,949**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '949 patent claims a system and method for controlling transmission power ramp-up. It discloses a two-stage power-up process wherein a short code is transmitted at a faster rate than a subsequent long code. Claims 1 and 7 are not essential at least because UMTS does not require the user equipment to transmit a periodic signal at a predetermined power or to increase the power level at a predetermined or pre-defined ramp-up rate. See 25.214 – 6. Claim 7 is further not essential at least because UMTS does not require that the predetermined transmit power be sufficiently low that it will not be detected by the base station. See 25.214 – 6. Claim 5 is not essential at least because UMTS does not require ceasing increase of the transmission power level at a first rate upon receipt of the confirmation signal and increasing the transmission power level at a second rate after the receipt of the confirmation signal. See 25.214 – 6. With respect to claim 6, even if the "synchronization code" were the synchronization channel of the UMTS, claim 6 would not be essential at least because transmission of the synchronization channel does not cease after confirmation from the node B is received at

the user equipment. See 25.211 – 5.3.3.5. Claim 10 is not essential at least because UMTS does not require transmission of a long access code at a second increasing power ramp up rate responsive to detecting a confirmation of receipt of a short code, where the second ramp up rate is less than the first power increase rate. See 25.211 – 5.2.2. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,212,174**

The '174 patent is directed to a system capacity management algorithm for use in a spread-spectrum system. When a subscriber unit (SU) comes within a certain value of maximum transmit power, the SU sends an alarm message to the base station. The base station sets a traffic light (flag), which controls access to the system, to a value which blocks access of the SU associated with the alarm message. When the transmit power at the base station equals or exceeds a maximum value, the base station inhibits the enablement of a spread spectrum channel by blocking transmission of a dial tone signal.



Each of claims 1, 6, and 9 require a method wherein when a transmit power level is equivalent to or greater than a predetermined power value, a base station blocks an assigned channel and an SU message channel of each SU not transmitting on the assigned channel. UMTS does not require a method wherein a base station blocks an assigned channel and an SU message channel of each SU not transmitting on the assigned channel. Claim 12 recites a method wherein a base station inhibits a spread spectrum channel that has been established but not enabled, by blocking transmission of a dial tone signal, when a measured transmit power of all established spread spectrum channels is equivalent to or greater than a predetermined value. UMTS does not require capacity control by inhibiting transmission of a dial tone signal when a measured transmit power is equivalent to or greater than a predetermined value. See 25.214 – 5 which includes requirements for power control but does not require blocking by a base station.

Claim 13 requires that an SU establish an assigned channel that is transmitted to a base station; compare the transmit power level of an SU message channel and an assigned channel to a predetermined value; and if the transmit power level of the SU is equivalent to or greater than the predetermined power value, inhibiting transmission of the SU message channel and disconnecting the established assigned channel. UMTS does not require that an SU establish an assigned channel that is transmitted to a base station. UMTS does not require that an SU compare a transmit power level to a predetermined value. Nor does UMTS require that an SU inhibit transmission of an SU message channel and disconnect an established assigned channel. See 25.101 – 6.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,215,778**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '778 patent claims a bearer channel modification system having a subscriber unit change from one spread spectrum channel to another spread spectrum channel having a different transmission data rate. The information signal rate is used to determine which of a first or second message channel is to be used. Even if the claimed call type signal and message code signal were the transport format combination set and spread data channel of UMTS, respectively, independent claim 1 would not be essential at least because UMTS does not require that a transmitter change an information signal from one message code signal to another in response to a call type signal. The Radio Resource Controller (RRC) does not alter transport formats such that one physical channel is exchanged for another. See, for example, 25.331 – 8. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,252,866**

The '866 patent claims a system that purportedly reduces the reacquisition time of subscriber units by a base station. The sole independent claim, claim 1, requires that the subscriber unit store a predetermined time delay reference for subsequent communication with the base station. Claim 1 of the '866 patent is not essential to UMTS at least because UMTS does not require delaying signals transmitted from the mobile station to the base station. Further, claim 1 is not essential to UMTS at least because UMTS does not require storing a predetermined delay time. See 25.214 – 6. Moreover, independent claim 1 has “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 and is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially

essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,256,339**

InterDigital omitted this patent from its 2004 declaration to ETSI. InterDigital admitted that its 2004 declaration superseded its 2001 declaration. See Boles Tr. Vol. 1, 114-15. InterDigital therefore has disclaimed the essentiality of this patent.

The '339 patent claims a method and apparatus for simultaneously receiving channel signals in a shared spectrum of a wireless spread spectrum code division multiple access communication system. The system transmits the channel signals using quadrature phase shift keying modulation wherein channel signals have differing data rates and a same transmission data rate, and simultaneously processes each channel signal's despread in-phase and quadrature phase despread signals after combining received symbols of the despread in-phase and quadrature phase despread signals to recover data for each channel signal.

The independent claims of the '339 patent are not essential at least because UMTS does not require a particular receiver design or algorithm. Independent claims 1 and 9 are not essential at least because the UMTS specification does not require simultaneously receiving a plurality of channel signals in a shared spectrum and transmitting the channel signals using quadrature phase shift keying modulation. More specifically, UMTS does not require simultaneous error control decoding on all of the receive channels after combining as claimed by this patent; a UMTS-compliant receiver can use the same decoder on multiple channels. The claimed combination technique is

design-specific, and is not a part of the specification. See 25.213 – 5.1.5.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,272,168**

The '168 patent claims a specific implementation of a CDMA modem, including a modem receiver having elements for receiving and processing multipath components of a signal. For example, the only independent claim—claim 1—requires, among other elements, a modem receiver having a pilot code acquisition means, which includes a pilot vector correlator for estimating a channel impulse response associated with a second pilot code signal wherein the channel impulse response estimate is determined by estimating a complex channel response affecting each multipath component of the second pilot code signal, and for correlating a plurality of phase-delayed versions of the second pilot code signal with a received CDM signal from a receive channel using the channel impulse response estimate to produce a despread second pilot signal.

Claim 1 of the '168 patent is not essential to the UMTS specification at least because UMTS does not require any particular receiver implementation for dealing with multipath and its effects. In particular, the UMTS specification does require a modem with a modem receiver having a pilot code acquisition device, as required by claim 1 of

the '168 patent. 25.213 – 5.2.3.1 and Annex B, for example, discuss code generation, but do not require the implementation of the '168 patent.

Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term “essential,” Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,278,726**

The '726 patent claims a spread-spectrum receiver and receiving method. Claim 1 requires filtering a received pilot signal using a pilot signal chip code and determining weights of components of the received pilot signal using an adaptive algorithm. Claim 9 requires a means for determining weights of components of the received pilot signal using an adaptive algorithm. Claim 15 similarly requires an adaptive algorithm block for determining weights of components of the received pilot signal using an adaptive algorithm. Claimed adaptive algorithms include minimum mean square error algorithm and least mean squared algorithm.

Independent claims 1, 9, and 15 of the '726 patent are not essential to UMTS at least because UMTS does not require a particular receiver design. In particular, claims 1,

9, and 15 of the '726 patent are not essential at least because UMTS does not require the weighting of components of a pilot signal using an adaptive algorithm. This is but one of many design choices.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,330,272**

The '272 patent claims a method, system and apparatus wherein a received pilot signal is despread with pilot chip code versions at different phase delays. The delayed pilot chip code versions are centered around a center delay with a left mass and a right mass, the left mass being a sum of the despread pilot signal versions having a delay less than the center delay and the right mass being a sum of the despread pilot signal versions having a delay greater than the center delay.

Independent claim 1 and claim 4 are not essential at least because UMTS does not require a particular receiver design, and in particular, a particular algorithm for weighting multipath components of a received signal. For example, claims 1 and 4 are not essential

at least because the UMTS specification does not require despreading a received spread spectrum signal with a plurality of delayed versions of a pilot chip code to produce a plurality of despread pilot signal versions centered around a center delay to form a left mass having a delay less than the center delay and a right mass having a delay greater than the center delay. See, for example, 25.101, 25.104, and 25.213. Claim 7 is not essential at least because the UMTS specification does not require a plurality of pilot mixers for despreading a received signal with a plurality of delayed versions of a pilot chip code to produce a plurality of despread pilot signal versions centered around a center delay as required in the '272 patent. These are specific design choices, and such design elements are not set out in the specification. Furthermore, there are other design choices that would not practice the claimed invention.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,373,830**

The '830 patent claims a system and method for allocating bandwidth and dynamically switching between different bandwidths. Independent claims 1 and 9 are not essential at least because UMTS does not dynamically switch between different bandwidths as claimed; UMTS uses direct sequence spread spectrum in which multiple



channels of different data rates may be spread within the same bandwidth, where bandwidth refers to a portion of the frequency spectrum. Independent claims 1 and 9 are further not essential at least because UMTS does not require changing the number of allocated data communications channels; UMTS only allows one each of two different types of composite data transport channels on the uplink. See 25.212 – 4.2.14.1.1 (release 7 – only a single dedicated composite transport channels is allowed on the uplink in earlier versions). Only one dedicated transport channel of dedicated type is allowed on the downlink for one UE. See 25.212 – 4.2.14.1.2. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,373,877**

The '877 patent claims a means and an apparatus for transmitting a first signal from each of a plurality of transmitting antennas, receiving the transmitted first signals and filtering each of the transmitted first signals using pseudo random chip code sequences associated with the first signals. The filtered reference signals are weighted,

combined and each first signal's weight is adaptively adjusted based on signal quality of the combined signal.

Claim 1 is not essential at least because the UMTS specification does not require a means for receiving each version of a data signal transmitted from a plurality of transmitting antennas and adaptively adjusting the weight of each first signal, transmitted from a plurality of transmitting antennas, based in part on the signal quality of a combined signal. See, for example, 25.101, 25.104, and 25.213.

Claims 12 and 15 are not essential at least because the UMTS specification does not require a mobile that uses a weighting device for weighting filtered pilot signals, corresponding to pilot signals transmitted from a plurality of transmitting antennas, in which each pilot signal's particular weight is based on in part a signal quality of a combined signal, which is generated by combining the weighted pilot signals. Claims 12 and 15 are further not essential at least because UMTS does not require a vector correlator or a rake receiver for filtering each data signal version, transmitted from a plurality of transmitting antennas, with its associated chip code and a combiner for combining the filtered versions to recover data.

Such design choices are within the province of the equipment manufacturer and are not part of the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,381,264**

The '264 patent claims an apparatus and method for tracking multipath components of a received signal about a center code phase in order to determine a tracking delay. The combined energy of despread multipath components occurring prior to the center code phase (a first combined energy) is compared to the combined energy of the despread multipath components occurring after the center code phase (a second combined energy). A tracking delay is determined based on the difference between the first combined energy and the second combined energy. The center code phase is adjusted by the determined tracking delay.

The '264 patent is not essential at least because the UMTS specification does not require any particular receiver design and does not require using a difference between a first combined energy and a second combined energy to determine a tracking delay in a received multipath signal. In particular, independent claims 1 and 5 are not essential at least because the UMTS specification does not require despreading a first and a second plurality of multipath components about a center code phase, and calculating a tracking delay based on a difference of a first combined energy of the despread first plurality of multipath components and the second combined energy of the despread second plurality of multipath components, as required by claims 1 and 5.

Similarly, independent claim 9 is not essential at least because the UMTS specification does not require a first and a second correlation bank for despreading a first and second plurality of multipath components, respectively, and an adder for calculating a difference of the first combined energy and the second combined energy as a tracking delay for adjusting the center code. For example, 25.101 – 7 and 25.104 – 7 address receiver requirements but do not require the calculation of tracking delay based on the difference between a first combined energy and a second combined energy. This patent claims highly specific design choices, and such choices are left to the equipment manufacturers. There are also alternatives to the claimed design.

Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,389,002**

The '002 patent includes three independent claims—claims 1, 8 and 16. Each independent claim either requires a means for (claims 8 and 16) or a method (claim 1) for notch filtering a spread-spectrum data signal to a selected unit. Claims 1, 8, and 16 are

not essential to UMTS at least because the UMTS specification does not require the use of notch filtering for overlaying a CDMA system over an existing cellular communication system. Moreover, these claims are not essential at least because the UMTS specification does not require a CDMA system overlaid in an existing cellular communication system.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,404,828**

The '828 patent claims a decoder that simultaneously decodes convolutionally encoded data signals of different data rates. Undecoded I and Q symbols are received at the decoder and corresponding Euclidean distances for each encoded signal are produced. The Euclidean distances are mapped using a trellis scheme. From the mapped trellis, decoded signals are created. Each independent claim requires a memory with a particular ping and pong configuration wherein a read and write operation occur simultaneously. Independent claims 1, 9, and 16 are not essential to UMTS at least because UMTS does not specify any particular receiver design. The UMTS specification does not include a requirement for simultaneous decoding of multiple channels, nor does it require a ping-

ponged memory permitting simultaneous read and write. These are highly specific design choices for which alternatives exist.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,456,608**

The '608 patent claims a pilot adaptive vector correlator for correcting phase rotation of received multipath signals. Independent claims 1, 11, and 15 of the '608 patent are not essential at least because UMTS does not specify any particular receiver design. UMTS does not require the use of multiple pilot correlators for generation of a derotation-phasor signal. More precisely, independent claims 1, 11, and 15 are not essential at least because UMTS does not require receivers to maintain synchronization by: generating and despreading multipath components using replicas of pilot spreading code signals at different phases; generating noise power levels when received signal components are out of phase with the replicas; generating detected pilot signals when received signal components are out of phase with the replicas; generating a derotation-

phasor signal with a phase lock loop; multiplying and filtering despread multipath signals by the derotation-phasor signal to generate weighting signals; combining weighted despread multipath signals to generate a combined pilot signal; and then determining synchronization of the detected pilot signals to the replicas and sending a control signal to offset the replicas accordingly. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,507,745**  
**U.S. Patent No. 6,490,462**  
**U.S. Patent No. 6,493,563**  
**U.S. Patent No. 6,519,474**

The '745, '462, '563, and '474 patents claim an apparatus, system, and method for controlling transmission power. They disclose a two stage power up process used by a mobile station. A short code, a sequence having a much shorter period than a conventional spreading code, is transmitted from the mobile to a base station during the initial ramp-up. The short code transmission power is initially at a power level that is lower than the power level required for detection by the base station. The transmission

power of the short code is subsequently ramped-up until the short code is detected by the base station. Once the short code is detected by the base station, the base station transmits a confirmation signal to the mobile. The mobile then transmits another signal, at the power level present when the confirmation signal is received.

Independent claims 1 and 3 of the '745 patent require a subscriber unit having a transmitting means including means for setting an initial power level for a periodic signal at a value which is lower than a power level required for detection by the base station.

UMTS does not require transmitting an initial power level at a value which is lower than a power level required for detection by a base station. See 25.214-6; 25.211-5.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

Independent claims 1 and 4 of the '462 patent recite a method that requires transmitting a periodic signal from a subscriber unit at an initial predetermined power level that is lower than a power level required for detection by the base station. UMTS does not require transmitting an initial power level at a value which is lower than a power level required for detection by a base station. See 25.214-6; 25.211-5.

With respect to the '563 patent, independent claims 1, 5, and 10 each require a subscriber unit for receiving and synchronizing with a pilot code. The UMTS specification does not state what the UE is to do with the pilot code, and in particular whether it is to be used for synchronization. Claim 6 includes a requirement for a primary station which ceases transmission of a synchronization code upon a secondary station's reception of a confirmation from the primary station. UMTS does not require



ceasing transmission of a synchronization code at a primary station upon the reception of a confirmation station at a secondary station. See 25.211 – 5.3.3. Claim 7 includes a requirement for transmitting from a subscriber unit a periodic signal at a predetermined power level that is sufficiently low so that it will not be detected by a base station. There is no such requirement in UMTS. See 25.214 – 6; 25.211 – 5. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

Independent claims 1 and 3 include the requirement for a subscriber unit having means for transmitting a periodic signal at an initial predetermined power level that is lower than a power level required for detection by a base station. UMTS does not require that a subscriber unit transmit a periodic signal at an initial predetermined power level that is lower than that required for detection by a base station. See 25.214 – 6; 25.211 – 5.

Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term “essential,” Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,560,300**

The '300 patent claims a system wherein multiple antennas located at a base station each transmit a reference signal and a version of a data signal. Independent claims 1 and 6 require user equipment wherein a receiving antenna at the user equipment receives versions of a signal from multiple antennas at a signal site. Once received, the reference signals are filtered according to the appropriate filtering code and weighted according to the signal quality of the received reference signal.

Claim 1 and claim 6 of the '300 patent are not essential to UMTS at least because the UMTS specification does not require a system for transmitting distinct instances of the same signal, each instance from different antennas at the same transmitting site (e.g., base station). See 25.104. Claim 6 is not essential at least because the UMTS specification does not require a mobile terminal having a first plurality of rake receivers for filtering and weighting received reference signals from different antennas of a single transmission site. Additionally, UMTS does not require a combiner for combining the weighted filtered reference signals to produce a combined signal and adaptively adjusting each of the reference signal's particular weight based on a signal quality of the combined signal. Similarly, UMTS does not require a second plurality of rake receivers for filtering and combining the filtered versions of received data. In fact, the UMTS specification does not require any particular receiver architecture – that is left to the equipment manufacturers. This claim language is highly specific with respect to receiver design and is clearly beyond the province of the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

U.S. Patent No. 6,571,105  
U.S. Patent No. 6,577,876

Claim 1 of the '105 patent recites a method used by a base station for controlling transmission power during establishment of communications between a base station and another communication unit. Claim 1 of the '876 patent claims the corresponding structure at the base station. The method of claim 1 of the '105 patent requires transmitting a power control signal when a periodic signal having sufficient power for detection is received, and receiving an access signal having a power level controlled by the power control signal. Similarly, claim 1 of the '876 patent requires a means for transmitting a power control signal when a periodic signal having a sufficient power level is received, and means for receiving an access signal having a power level controlled by the power control signal. The communication establishment procedure of UMTS does not require transmission of a power control signal when a periodic signal is detected at the base station. The acquisition indicator is an acknowledgement, not a power control

signal in that it does not specify an increase or decrease in power. UMTS also does not require receiving an access signal with a power level controlled by the power command signal transmitted by the base station. See 25.214 -6; 25.21-5. Furthermore, transmissions by the UE following the receipt of an access indication do not constitute "access codes" that are multiples of the short code. The RACH message part is not an access code — it is a message. UMTS does not call for a two-stage access procedure that uses two distinct sets of access code transmissions.

Moreover, the "means" language of the '876 patent, which is subject to construction in accordance with 35 U.S.C. 112 ¶6, is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,574,265

The '265 patent claims a method for transmitting a reference signal from each of a plurality of transmitting antennas, receiving the transmitted reference signals and filtering each of the transmitted reference signals using that reference signal's chip code. The

filtered reference signals are weighted, combined and each reference signal's weight is adaptively adjusted based on signal quality of the combined signal.

Claim 1 is not essential at least because the UMTS specification does not require adaptively adjusting the weight of each reference signal, transmitted from a plurality of transmitting antennas, based in part on the signal quality of a combined signal, which combines each of the reference signals. See, for example, 25.101, 25.104, and 25.213.

Claim 1 is further not essential at least because UMTS does not require receiving a data signal, transmitted from each of the plurality of antennas, via filtering each version of the data signal with its associated code and combining the filtered version, so that the different data signal versions are weighted in accordance with the adjusted weights associated with the reference signal of a respective antenna.

Such design choices are within the province of the equipment manufacturer and are not part of the UMTS specification.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,574,271**

The '271 patent requires and claims a receiver and an adaptive algorithm technique which delays received signals to produce a window having evenly spaced

samples of the received signal. The independent claims of the '271 patent—claims 1, 6, 11, 16, 17, and 18—include a requirement for despread samples of a signal with delayed versions of a pilot code to produce a window of despread pilot code window samples.

Claims 1, 6, 11, 16, 17, and 18 are not essential to UMTS at least because UMTS does not require a particular receiver design, and in particular, does not require a receiver using a windowing technique to obtain evenly spaced samples of a received signal, as claimed in the '271 patent. See, for example 25.101 – 7 and 25.104 – 7 for exemplary receiver characteristics. Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term “essential,” Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

U.S. Patent No. 6,577,672  
U.S. Patent No. 6,577,673

The '672 and '673 patents each include two independent claims. The '672 patent claims a mobile station and the '673 claims a base station. Independent claim 1 of both the '672 and '673 patents require a plurality of decoding means, each for decoding a

separated channel of a multichannel data communication at an assigned data rate and sharing a common decoding memory; and a control means for directing each separated channel to one of the decoding means and assigning that decoding means a data rate responsive to an identified data rate. The requirements for independent claim 9 of both the '672 and '673 patents include at least four add-compare-select (ACS) circuits, coupled to a calculation engine, for processing constellation points of the at least four data channels at an assigned data rate; a state metric memory and a traceback memory, coupled to the ACS circuits, for processing the at least four data channels being decoded; an ACS processor, coupled to said ACS circuits, for coordinating the processing of the ACS circuits; a traceback processor, coupled to said ACS circuits, for arriving at a decoded symbol for all data channels; and a receiver system interface for coupling a multichannel Viterbi decoder with additional processors.

Claims 1 and 9 of each of the '672 and '673 patents are not essential to UMTS at least because the UMTS does not require a specific receiver design or algorithm. See, for example, 25.101, 25.104, and 25.212. Each of claims 1 and 9 of both patents requires a particular receiver design. For example, claim 1 of both patents requires a plurality of decoding devices, each for decoding a separate channel of a multichannel data communication, and each sharing a common decoding memory. There is no such requirement in UMTS, and there are alternatives to this design approach. Claim 9 of both patents require at least four add-compare-select circuits, a state metric memory and a traceback memory, and an ACS processor. These specific design elements are not required by UMTS, and there are alternatives to this design approach.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,606,503**

Claims 1 and 5 recite a subscriber unit and station, respectively, having means for transmitting a periodic signal at an initial predetermined power level, then repeatedly retransmitting the periodic signal. UMTS does not require a subscriber unit to transmit a periodic signal at an initial predetermined level. For example, see random access procedure described at 25.211-5.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.



**U.S. Patent No. 6,608,838**

This patent claims a wireless digital subscriber unit for supporting channels of different communication rates. Independent claim 1 is not essential at least because UMTS does not require allocating B or D ISDN channels. Independent claims 5 and 17 are not essential at least because UMTS does not require that user equipment determine an adjusted data rate for support of its communication and reallocate transmission channels to support the communication; in UMTS, this determination is performed, if at all, by the Radio Resource Control layer in the node B in the form of a transport format set. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,611,548**

The '548 patent claims an apparatus for a multipath processor which processes a plurality of groups of spread-spectrum signals. According to the '548 patent, each of a first group of a plurality of spread-spectrum signals is received and despread. Thereafter,

each of a second group of a plurality of spread-spectrum signals is received and despread. The results from the despreading of the first group and the second group are combined.

Independent claim 1 is not essential at least because UMTS does not require a multipath processor having a means for selecting one of a first combined-despread signal, generated by a first means which combines a first plurality of spread spectrum signals within a first group and a second combined-despread signal, as an output signal where the second combined-despread signal is generated by a second means. See, for example, 25.101, 25.104, and 25.213.

Independent claims 2, 3, and 4 are not essential at least because UMTS does not require a multipath processor having a first plurality of correlators or matched filters or a first means for despreading a first plurality of spread-spectrum signals which are added to form a first combined-despread signal and a second plurality of correlators or matched filters or a second means for despreading a second plurality of spread-spectrum signals that are combined to form a second combined-despread signal and an output combiner for combining the first combined-despread signal and the second combined-despread signal. Claims 2 and 3 are further not essential at least because the UMTS specification does not require a first and a second weighting device for weighting the first combined-despread signal and for weighting the second combined despread signal, respectively.

Such design choices are within the province of the equipment manufacturer and are not part of the UMTS specification.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,614,776

The '776 patent claims an apparatus and method for forward error correction ("FEC"). The FEC is applied to a signal, after which the signal is demultiplexed to a plurality of modem processors for transmission via a corresponding plurality of independent channels, which are aggregated together.

This patent proposes an aggregate approach to error control that is not followed. In fact, the opposite of that is in the UMTS specification. See 25.212. The independent claims of the '776 patent are not essential at least because the UMTS specification does not require any particular receiver/transmitter design or algorithm. For example, independent claim 1 is not essential at least because the UMTS specification does not require a transmitter having an FEC coder which receive a source signal and produces an enhanced source signal that is subsequently demultiplexed and processed by separate modem processors. Independent claim 8 is not essential at least because the UMTS specification does not require a receiver has a multiplexer coupled to direct an output of demodulators to an FEC decoder to recover a single unitary information signal from a received single aggregate signal. See 25.212.

Independent claim 15 is not essential at least because the UMTS specification does not require an FEC encoder, connected to receive a source signal, and to apply an error correction code and a demultiplexer in communication with the FEC encoder that in turn provides input to a plurality of modem processors. Independent claim 21 is not essential at least because the UMTS specification does not require enhancing a high data rate signal with the FEC code and distributing the enhanced high data rate signal over a plurality of demultiplexed signals.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,633,600**

The '600 patent claims a method for indicating to a subscriber unit a status and available capacity of a communication system. Per the sole independent claim, the broadcast channel uses traffic lights, each associated with an access channel, for use in initial access attempts, and has service indicator bits for indicating a measure of available capacity. This claim is not essential to UMTS at least because the claimed method would be performed, if at all, by the common packet channel (CPCH). CPCH is no longer part of the UMTS specification, was never implemented, and was optional even when it was part of UMTS specification.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,671,308**

The '308 patent is directed to a system and method for adaptive power control of a spread spectrum transmitter of a mobile unit. The specification discloses that base station uses the magnitude of its AGC output signal to generate a power control command to the mobile station, in response to which the mobile station increases or decreases its transmit power level.

Even if the claimed "power-command signal" were construed to cover the closed loop uplink transmit power command of UMTS, independent claims 1, 5, and 12 are not essential at least because UMTS does not require the base station to generate an "AGC-output signal" that is used to generate the transmit power command. See 25.214 – 5 and earlier comments regarding the claimed AGC circuit in this brief. Claim 1 further is not essential at least because UMTS does not require the user equipment to follow a "step-size" power adjustment algorithm as claimed; in UMTS, the transmit power command directs the user equipment to change its transmit power in fixed step sizes of 1, 2, or 3dB only – it is not used to specify the size of the step. See 25.101 – 6.4.2.1. Independent claims 1, 5, and 12 further are not essential at least because UMTS transmit power

commands from a node B to the user equipment are sent as a part of a dedicated control channel and not "as a second spread spectrum signal" as claimed.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,674,788

The '788 patent claims a method and apparatus for communication data signal blocking for a base radio control station (RCS) which wirelessly communicates with subscriber units (SUs). A transmitter sends signals as a baseband combined signal over global and assigned channels to SUs. The SUs are set to initial power levels and the power levels are combined and monitored based on a root mean square value of the baseband combined signal. Transmission of a new communication data signal on an assigned channel is blocked if a predetermined RCS transmitter power level limit is reached before commencing transmission of that signal.

Independent claims 1 and 8 are not essential at least because the UMTS specification does not require blocking a communication data signal for a base station

and monitoring a root mean square value of a baseband combined signal as the base station transmitter power level and controlling the transmitter of the base station such that transmission of a new communication data signal on an assigned channel is blocked if a predetermined base station transmitter power level limit is reached before commencing transmission of the new communication data signal. See 25.104 - 6.2.1.1.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,674,791**

The '791 patent claims a subscriber unit (SU) having self blocking control. Claim 1 recites a method of self blocking for a subscriber unit and claim 7 recites a subscriber unit having a self blocking control. Each claim requires that the subscriber unit monitor its transmit power level in advance of transmission. UMTS does not require that a mobile monitor its transmit power level in advance of transmission. See 25.214 - 5. Each claim requires that a subscriber unit control a transmitter such that transmission of communication data signals on an assigned channel is blocked if a predetermined power limit is reached before transmission of the communication signal on the assigned channel. UMTS does not require that a subscriber unit block its own transmission when a power limit is reached. See 25.331 - 8.6.6.8; 25.101.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,697,350**

The '350 patent claims an adaptive vector correlator and a corresponding method. The claimed adaptive vector correlator estimates channel response and obtains a reference value of multipath signal components having pilot spreading code signals. The '350 patent is not essential to UMTS at least because UMTS does not specify any particular receiver design. UMTS does not require receivers to develop estimates of channel response and to use that estimate to refine synchronization. More precisely, independent claims 1, 8, and 10 of the '350 patent are not essential at least because UMTS does not require receivers to maintain synchronization by: generating and combining detected pilot signals from received signal components that are in phase with replicas of pilot spreading code signals at different phases; generating noise power levels when received signal components are out of phase with the replicas; estimating and correcting for a channel response; and then determining synchronization of the detected pilot signals to the replicas and sending a control signal to offset the replicas accordingly. These are specific design choices, and such design elements are not set out in the



specification. Furthermore, there are other design choices that would not practice the claimed invention.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,707,805

This patent claims a method for controlling a subscriber's transmit power. The subscriber unit sends an "SU-spreading code" on a "status channel." If the base station detects the "SU-spreading code," the base station responds with a "BS-spreading code" on a "checkup channel." The subscriber unit decreases its power if it detects the "BS-spreading code" and increases its power if not.

Claim 1—the only independent claim—is not essential to UMTS at least because UMTS does not require control of the transmit power of the mobile based on whether or not a signal from the base station is detected at the mobile. For example, 25.214 – 5 addresses transmit power control but does not require that a subscriber unit increase or

decrease its power based on whether it detects a "BS-spreading code" from a base station. Additionally, UMTS does not require a "status channel" and a "checkup channel."

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

U.S. Patent No. 6,721,301  
U.S. Patent No. 6,983,009

The '301 and '009 patents claim an apparatus for tracking a spreading code. An input signal has spread-spectrum modulation with a spreading code embedded in the spread-spectrum modulation having chips. The input signal is sampled, and half-chip offset samples are formed from the sampled input signal. An even set of the half-chip offset samples are grouped into an early set of samples, and an odd set of the half-chip offset samples are grouped into a late set of samples. The early set samples are used to generate an early signal-energy value and the late set of samples are used to generate a late signal-energy value. A difference is calculated between the early signal-energy value and the late signal-energy value to produce an error signal.

The '301 and '009 patents are not essential at least because the UMTS specification does not require any particular receiver design and does not require calculating a difference between an early signal-energy value and a late signal-energy value to produce an error signal. In particular, independent claims 1, 2, and 3 of the '301

patent and independent claims 1, 2, and 3 of the '009 patent are not essential to the UMTS specification at least because the UMTS specification does not require producing an error signal by calculating a difference between an early signal-energy generated from early signal samples and a late signal-energy generated from late signal samples, as required by each claim of the '301 and '009 patents.

These patents claim highly specific design choices, and such choices are left to the equipment manufacturers. There are also alternatives to the claimed design. See, for example, 25.101 ~ 7 and 25.104 ~ 7.

Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,721,350**

The '350 patent claims a base station having an AGC circuit or an AGC means for generating a power command signal that is transmitted from the base station. Even if the claimed "power-command signal" were construed to cover the closed loop uplink transmit power command of UMTS, independent claims 1 and 5 are not essential at least

because UMTS does not require the base station to generate an "AGC-output signal" that is used to generate the transmit power command. See 25.101 -- 6 and earlier comments.

Moreover, independent claim 5 has "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 and is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,738,368**

The '368 patent claims a method for prioritizing packet data for transfer over a multiuser channel. The specification discloses that data are queued based on their priority, and whether or not their transmission on a common channel is mandatory or preferable. Mandatory data cannot be rerouted. Preferable data can be rerouted prior to a queue in accordance with priorities of other data. Independent claims 1 and 10 are not essential at least because UMTS does not require that prioritization be based at least in part on routability; UMTS does not distinguish between routable and re-routable data. See 25.321 -- 11.2.1 and 11.4.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,744,809**

The '809 patent claims a method and apparatus for tracking multipath components of a received signal at a receiver about a center code phase in order to determine a tracking delay. The combined energy of despread multipath components occurring prior to the center code phase (a first combined energy) is compared to the combined energy of the despread multipath components occurring after the center code phase (a second combined energy). A tracking delay is determined based on the difference between the first combined energy and the second combined energy. The center code phase adjusted by the determined tracking delay.

The '809 patent is not essential at least because the UMTS specification does not require any particular receiver design and does not require using a difference between a first combined energy and a second combined energy to determine a tracking delay in a received multipath signal. In particular, independent claims 1, 2, and 3 are not essential at least because the UMTS specification does not require despreading a first and a second plurality of multipath components about a center code phase, calculating a tracking delay based on a difference of the first combined energy of the despread first plurality of multipath components and second combined of the despread second plurality of multipath components, and adjusting the center code phase by the tracking delay. See for

example, 25.101 – 7 and 25.104 – 7, which address receiver requirements but do not require the calculation of tracking delay based on the difference between a first combined energy and a second combined energy. The patent claims highly specific design choices, and such choices are left to the equipment manufacturers. There are also alternatives to the claimed design.

Moreover, each independent claim with “means” language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI’s use of the term “essential,” Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital’s ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,778,840

The ‘840 patent is directed to a method for controlling power during the establishment of a communication link between a base station and a subscriber unit. A short code is transmitted from the subscriber unit to the base station, beginning at an initial predetermined power level. The short code is repeatedly retransmitted at successively higher power levels with each retransmission. Once detected at the base station, the base station transmits an acknowledge signal to the subscriber unit.

Each of two independent claims of the '840 patent—claim 1 and 3—recite a method for controlling transmission power including transmitting a periodic signal at an initial predetermined power level. UMTS does not require a subscriber unit to transmit a periodic signal at an initial predetermined level. For example, see random access procedure described at 25.211-5.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,782,040

The '040 patent requires and claims a receiver and an adaptive algorithm technique which delays received signals to produce a window having evenly spaced samples of the received signal. The independent claims of the '040 patent—claims 1 and 10—include a requirement for receiving a signal at a receiver, sampling the signal and delaying the samples to produce a window of evenly spaced samples. An adaptive algorithm is used to assign an optimum weight to each window sample after it has been despread with a pilot signal. The received signals are then despread with a traffic code and weighted with the corresponding weight previously determined.

Claims 1 and 10 are not essential to UMTS at least because UMTS does not require a particular receiver design, and in particular, does not require a receiver design

or algorithm using a windowing technique to obtain evenly spaced samples of a received signal, as claimed in the '040 patent. See, for example, 25.101 - 7 and 25.104 - 7 for exemplary receiver characteristics. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

U.S. Patent No. 6,788,662  
U.S. Patent No. 6,940,840

The '662 and '840 patents claim a method and apparatus, respectively, for reverse link adaptive power control. The claims of the '662 and the '840 patents require that a signal from a subscriber unit (SU) be despread at the base station. Based on the power level of the received signal, the noise in the received signal, and an SNR associated with the service type, the base station calculates a first error signal. The base station calculates a second error signal based on the total received power and an automatic gain control (AGC) set point. A combined error signal is formed based on a weighted combination of the first error and the second error. Based on the error signal, an APC bit is calculated and transmitted to the SU. The SU uses the APC bit to adjust its transmit power.



25.214 – 5.1.2.2 relates to UE transmit power control to maintain uplink signal to interference ratio (SIR) at a given target. 25.214 and 25.215 outline requirements for power control but do not specify an algorithm for power control. The implementation of 25.214 – Annex B.2 is merely exemplary, and moreover, is inconsistent with all of the claims of the '662 and '840 patents. Additionally, the UMTS specification does not require the use of an AGC set point in determination of a power control signal for a UE. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,798,759**

The '759 patent claims a method for using a base station to adjust a communications data rate. The '759 patent discloses selection and use of one or more transmission channels including at least one ISDN B or D channel. Independent claims 1 and 16 are not essential to UMTS at least because UMTS does not require allocating B or D ISDN channels. Independent claim 5 is not essential at least because UMTS channels do not have predetermined data rates; rather, data rates are determined by the orthogonal

variable spreading factor used in the channel. See 25.213 --4.3.1. Claim 5 also is not essential at least because UMTS does not require that the sum of the data rates of the allocated channels be at least equal to the adjusted data rate because the UMTS incorporates rate matching.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,801,516

The '516 patent claims a spread spectrum system that assigns an information signal to a message-code signal. Even if the claimed call type signal and message code signal were the transport format set and spread data channel of UMTS, respectively, independent claims 1, 9, 17, 25, 34, and 45 would not be essential at least because UMTS does not require that a transmitter change a combination of information signals and message code signals in response to a call-type signal. Instead, variations in transport format (if so interpreted) are implemented without changing the "message code." See, for example, 25.321 --4.2.3. Independent claims 1, 9, 17, 25, 34, and 45 further would not be essential at least because UMTS does not require that information channel rates are predetermined. Moreover, each independent claim with "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS

does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,801,517**

The '517 patent has two independent claims purportedly covering a base station that receives data over the common packet channel. These claims are not essential to UMTS at least because the common packet channel is no longer part of the UMTS specification, was never implemented, and was optional even when it was part of the UMTS specification. These claims are further not essential at least because UMTS does not require that a base station transmit to a mobile terminal a channel identifier for an access slot in the common packet channel that has been assigned to the mobile terminal. Moreover, independent claim 3 has "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 and is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically

essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,804,315**

The '315 patent discloses and claims a UE communication establishment system which includes a first module, a second module, a third module, and a controller coupled to the three modules. According to the only independent claim—claim 1—a first module generates an index value associated with a primary synchronization code. A second module processes the communication signal in response to the index value and a peak value extracted from the first module and retrieves a code group number, a slot offset and second synchronization code. A third module retrieves a primary scrambling code in response to the code group number and slot offset. A controller coupled to the three modules adjusts the search frequency of a UE to retrieve the primary scrambling code in the communication signal.

Claim 1 is not essential to UMTS at least because the UMTS specification does not require a particular receiver design for acquiring synchronization with a cell. In particular, claim 1 requires adjustment of a "search frequency" of a UE to retrieve a primary scrambling code; this is not required in UMTS. See, for example, 25.101-7; 25.104-7 which include UMTS requirements for receivers, but does not require the particular design claimed in the '315 patent.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the

term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,810,029**

The '029 patent claims a method for supporting and modifying a plurality of communication rates with a subscriber unit that uses a plurality of communication channels. The specification discloses that the plurality of communication channels includes at least one ISDN B or D channel. Independent claims 1 and 12 are not essential to UMTS at least because claims 1 and 12 should be construed to require the allocation of ISDN B and D channels, which is not required by UMTS. Independent claims 1 and 12 are not essential at least because UMTS does not require that the user equipment determine an adjusted data rate for support of its communication and reallocate transmission channels to support the communication; in UMTS, this determination is performed, if at all, by the node B.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,816,473**

Claims 1 and 5 of the '473 patent each recite a method for adaptive forward control of power. The specific method claimed is one of a number of implementation possibilities. UMTS does not require the use of a specific adaptive forward power control algorithm. For example, UMTS does not require the use of a first and second weight, each chosen for a service type, for calculating an error value that is used to generate an adaptive power control command, as required by claims 1 and 5. See 25.214 and 25.215.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

U.S. Patent No. 6,823,194  
U.S. Patent No. 6,832,095  
U.S. Patent No. 6,832,096  
U.S. Patent No. 6,868,278

The '194 patent claims an apparatus and method for adaptive power control of a system with a variable data rate. Independent claims 1, 3, 8, 9, and 15 require computation of a scale factor for the transmission power as a function of the ratio of the data rate  $N(t)$  over the faster adjusted data rate  $M(t)$ . Claim 1 requires an open loop in which the transmitter receives a reference signal, measures its power, computes a path loss, and computes the scale factor based on the path loss, the received measured

interference power data, the target SNR, and the square root of the ratio of the slower and faster data rates:  $\sqrt{N(t)/M(t)}$ . Claim 3 requires a closed loop in which the scale factor is calculated based on step up / step down data and  $\sqrt{N(t)/M(t)}$ . Claim 9 also calculates the scale factor as a factor of  $\sqrt{N(t)/M(t)}$ , and claims 8 and 15 calculate the scale factor based on  $N(t)/M(t)$ .

Claims 1, 3, 8, 9, and 10 of the '194 patent are not essential to UMTS at least because UMTS does not require computation of a scale factor based on either  $N(t)/M(t)$  or  $\sqrt{N(t)/M(t)}$ , where N and M are the pre-upconverted and upconverted data rates, respectively. UMTS does not specify the algorithm for derivation of power control commands, whether at data rate transitions or otherwise. Moreover, 25.214 – 5.1.2 does not require compensating for change of data rate in advance of quality adjustment based on the quality of data received at the receiver.

The '095, '096, and '278 patents arise from the same continuation applications as the '194 patent discussed above. Independent claims 1 and 9 of the '095 patent determine the step up/step down data as a function of  $N(t)/M(t)$ , where N and M are the pre-upconverted and upconverted data rates respectively. Independent claims 1, 10, and 16 of the '096 patent determine the transmitter power scale factor as a function of  $N(t)/M(t)$ . Independent claim 18 of the '096 patent determines the step up/step down as a function of  $N(t)/M(t)$ . Independent claims 1, 3, 5, and 7 of the '278 patent determine the transmitter power scale factor as a function of  $N(t)/M(t)$ . All claims in the three patents are not essential to UMTS at least because UMTS does not require computation of a scale factor based on either  $N(t)/M(t)$  and because UMTS does not specify the algorithm for

derivation of power control commands, whether at data rate transitions or otherwise, as explained above.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,826,244

The '244 patent claims a means by which a UE establishes communications. Independent claims 1, 3, 12, and 13 require either a method or controller for adjusting a search frequency of a UE in response to a first, second, and third module in order to retrieve a primary scrambling code. Independent claim 6 requires a method that includes a step of determining whether a detected base station is associated with a specific public land mobile network (PLMN) and adjusting a search frequency in response to a determination of the PLMN. Independent claims 9 and 14 require adjusting a search frequency based on an unfavorable outcome of a comparison between a scrambling code of a detected base station and pre-stored values in memory.

Claims 1, 3, 6, 9, 12, 13, and 14 are not essential to UMTS at least because the UMTS specification does not require a particular UE receiver design or algorithm for acquiring synchronization with a cell. In particular, with respect to claims 1, 3, 12, and 13, UMTS does not require adjusting a search frequency of a UE in response to a first,



second and third module in order to retrieve a primary scrambling code. Similarly, with respect to claim 6, UMTS does not require determining whether a detected base station is associated with a specific public land mobile network (PLMN) and adjusting a search frequency in response to a determination of the PLMN. The same is true for claims 9 and 14. UMTS does not require adjusting a search frequency based on an unfavorable outcome of a comparison between a scrambling code of a detected base station and pre-stored values in memory.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### U.S. Patent No. 6,831,905

The '905 patent claims a system and method for assigning particular spreading codes in accordance with information received regarding the data rate of received input information. Even if the claimed call type signal and message code signal were the transport format and spread data channel of UMTS, respectively, independent claims 1, 7, 13, 19, 22, 25, 28, 36, and 44 would not be essential to UMTS at least because UMTS does not require that each message code signal support a predetermined information channel rate; in UMTS, the rate of each data channel is determined by a variable spreading factor. Moreover, each independent claim with "means" language subject to

construction, in accordance with 35 U.S.C. 112 ¶ 6 is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,839,567**

The '567 patent includes one independent claim for a method, employed by a base station, for controlling transmission power wherein a base station detects a short code that is repeatedly transmitted at a predetermined power level by a subscriber unit, transmits to the subscriber unit a power control signal when the short code has been detected, and receives an access signal having a power level established upon receipt of the power control signal. The claim also requires that the access signal is longer than and includes the short code.

Even if attempts were made to read this claim onto the random access procedure, this claim is not essential to UMTS at least because UMTS does not require an access code that includes a short code. For example, even if attempts were made to read the claimed access code onto the UMTS random access channel and if the claimed short code were the UMTS preamble, which they are not, the RACH message does not include the

preamble. See, for example, 25.211 – 5.2.2. Moreover, the specification does not require that a short code be transmitted at an initial predetermined power level. See 25.211 – 5.2.2 and 25.214 – 5.1.1. There is also no requirement for a base station that transmits a power command signal when a short code is detected. An acquisition indicator is not a power control signal. See 25.211 – 5.2.2 and 25.214 – 5.1.1.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

#### **U.S. Patent No. 6,845,093**

The '093 patent has two independent claims purportedly covering a base station that receives data over the common packet channel. These claims are not essential to UMTS at least because the common packet channel is no longer part of the UMTS specification, was never implemented, and was optional even when it was part of the UMTS specification. These claims are further not essential at least because UMTS does not require that a base station transmit to a mobile station a channel identifier for an access slot in the common packet channel that has been assigned to the mobile station. Moreover, independent claim 2 has "means" language subject to construction in accordance with 35 U.S.C. 112 ¶ 6 and is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially essential is not relevant to InterDigital's ETSI declaration regarding this patent and therefore neither contests nor concedes the commercial essentiality of this patent.

**U.S. Patent No. 6,850,514**

The '514 patent has three independent claims purportedly covering a base station that receives data over the common packet channel. These claims are not essential to UMTS at least because the common packet channel is no longer part of the UMTS specification, was never implemented, and was optional even when it was part of the UMTS specification. These claims are further not essential at least because UMTS does not require that a base station transmit to a mobile station a channel identifier for an access slot in the common packet channel that has been assigned to the mobile.

Moreover, independent claim 7 has "means" language subject to construction in accordance with 35 U.S.C. 112 § 6 and is not essential at least because UMTS does not require the corresponding structure, if any, in the patent specification, or its equivalents.

For the foregoing reasons, this patent is not essential, as that term is used by ETSI. In light of the disagreement between the parties regarding the ETSI's use of the term "essential," Nokia adds that, for the foregoing reasons, the patent is not technically essential. Moreover, Nokia contends that whether or not the patent is commercially